



PTO/SB/08B (10-01)  
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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/673,976
		Filing Date	09/29/2003
		First Named Inventor	Mark E. Van Dyke
		Group Art Unit	Not Yet Assigned
		Examiner Name	Not Yet Assigned
Sheet 1 of 1	Attorney Docket Number	SWRI-2921-04	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
<i>ME</i>		WATA, et al.; Coating Film For Living Tissues; November 2, 1985; total of 9 pages; Japanese Patent Application Kokai Publication No. Sho 60-220068	
		<del>ENDO; De-Allergized Rubber or Plastic Molding Used in the Field of Medical Care; April 16, 2002; total of 5 pages; Japanese Patent Application Kokai Publication No. 2002-113815</del>	
<i>ME</i>		YOSHIOKA et al; Modified Animal Hair or Wool Powder; July 11, 1989; total of 13 pages; Japanese Unexamined Patent Application Publication H01-174528	
<i>ME</i>		MIYAMOTO et al; Process for Producing Modified Keratin Protein; February 6, 1982; total of 4 pages; Japanese Patent Application Kokai Publication No. Sho 57-23631.	
<i>ME</i>		YAMAUCHI et al; Keratin Microcapsule, Production of Keratin Microcapsule, and Cosmetics Containing Keratin Microcapsules; December 22, 1998; total of 5 pages; Japanese Patent Application Kokai Publication No. H10-337466	

Examiner Signature	<i>[Signature]</i>	Date Considered	7/10/05
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			First Named Inventor	MARK VAN DYKE	
			Art Unit	Not Yet Assigned	
			Examiner Name	Not Yet Assigned	
			Attorney Docket Number	SWRI-2921-04	

U.S. PATENT DOCUMENTS					
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
Mw		US- 922.692	05-25-1909	B.B. GOLDSMITH	
		US- 926.999	07-06-1909	GARL NEUBERG	
		US- 960.914	06-07-1910	ARTHUR HEINEMANN	
		US- 3.642.498	02-15-1972	ANKER	
		US- 4.423.032	12-27-1983	ABE <i>et al.</i>	
		US- 4.474.694	10-02-1984	COCO <i>et al.</i>	
		US- 4.570.629	02-18-1986	WIDRA	
		US- 4.751.074	06-14-1988	MATSUNAGA <i>et al.</i>	
		US- 4.895.722	01-23-1990	ABE <i>et al.</i>	
		US- 5.047.249	09-10-1991	ROTHMAN <i>et al.</i>	
		US- 5.505.952	04-09-1996	JIANG <i>et al.</i>	
		US- 5.679.819	10-21-1997	JONES <i>et al.</i>	
		US- 5.712.252	01-27-1998	SMITH	
		US- 5.955.549	09-21-1999	CHANG <i>et al.</i>	
		US- 6.159.495	12-12-2000	TIMMONS <i>et al.</i>	
		US- 6.159.496	12-12-2000	BLANCHARD	
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FOREIGN PATENT DOCUMENTS						
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		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
Mw		EP 0 298 684 A3	01-11-1989	Unilever PLC		
		EP 0454 600 A1	10-30-1991	ICP FRANCE		
		JP 4-189833	07-08-1992	TAKEDA Chemical		
		WO 98/ 08550	03-05-1998	FUSION MEDICAL		
		WO 93/22397	11-11-1993	MERCK		
Mw		EP 0 468 797 A2	01-29-1992	NIIGATA Hi-Spinner:		

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				First Named Inventor	MARK VAN DYKE
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
				Attorney Docket Number	SWRI-2921-04
Sheet	2	of	9		

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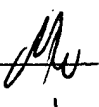

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		J.M. GILLESPIE, et al., "Amino Acid composition of a Sulphur-Rich Protein from Wool," BIOCHIM. BIOPHY. ACTA, (1960) pp. 538-539; Vol. 39.	
		KEITH H. GOUGH, et al., "Amino Acid Sequences of alpha -Helical Segments from S-Carboxymethylkerateine-A: Complete Sequence of a Type-I Segment," BIOCHEM. J. (1978), pp. 373-385; Vol. 173	
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		DAVID McC. HOGG, et al., "Amino Acid Sequences of alpha-Helical Segments from S-Carboxymethylkerateine-A: Tryptic and Chymotryptic Peptides from a Type-II Segment," BIOCHEM. J. (1978), pp. 353-363; Vol. 173.	
		W. GORDON CREWETHER, et al., "Amino Acid Sequences of alpha -Helical Segments from S-Carboxymethylkerateine-A: Complete Sequence of a Type-II Segment," BIOCHEM. J. (1978), pp. 365-371; Vol. 173.	
		C. EARLAND, et al., "Studies on the Structure of Keratin: II. The Amino Acid Context of Fractions Isolated from Oxidized Wool," BIOCHEMICA ET BIOPHYSICA ACTA (1956), pp. 405-411, Vol. 22.	
		J.M. GILLESPIE, et al., "Preparation of an Electrophoretically Homogeneous Keratin Derivative from Wool," Short Communications, Preliminary Notes, (1953), pp. 481-482, Vol. 12.	
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		ROBERT C. MARSHALL, et al., "Successful Isoelectric Focusing of Wool Low-Sulphur Proteins," Journal of Chromatography, (1979) pp. 351-356, Vol. 172.	
		ROBERT C. MARSHALL, "Characterization of the Proteins of Human Hair and Nail by Electrophoresis," The Journal of Investigation Dermatology, (1983) pp. 519-524, Vol. 80.	

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W		W. G. CREWETHER, et al. "Helix-Rich Fraction from the Low-Sulphur Proteins of Wool," Nature, (July 17, 1965) P. 295, No. 4994.	
		H. LINDLEY, et al., "Occurrence of the Cys-Cys Sequence in Keratins," J. Mol. Biol., (1967) pp. 63-67, Vol. 30.	
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		P.J REIS, et al. "A Relationship between Sulphur Content of Wool and Wool Production by Merino Sheep," Aust. J. Biol. Sci., (1967) pp. 153-63, Vol. 20.	
		ROBERT C. MARSHALL, et al., "The Keratin Proteins of Wool, Horn and Hoof from Sheep," Aust. J. Biol. Sci., (1977) pp. 389-400, Vol 30.	
		J.M. GILLESPIE. "Reaction of Sodium Borohydride with Wool," Nature, (January 31, 1959) pp.322-23, Vol. 183.	
W		DAVID R. GODDARD, et al., "A Study on Keratin," J. Bio. Chem., (1934) pp. 605-14, Vol. 106.	
		L.M. DOWLING, et al., "Isolation of Components from the Low-Sulphur Proteins of Wool by Fractional Precipitation Preparative Biochemistry," (1974) pp. 203-226, Vol. 4 (3).	
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		W.T. AGAR, et al., "The Isolation from Wool of a Readily Extractable Protein of Low Sulphur Content," Biochim. Biophys Acta, (1958) pp. 225-226, Vol. 27.	

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Me		H. LINDLEY, et al., "The Reactivity of the Disulphide Bonds of Wool," Biochem J. (1974) pp. 515-523, Vol. 139.	
		M. SCHORNIG, et al., "Synthesis of Nerve Growth Fractor mRNA in Cultures of Developing Mouse Whisker Pad, A Peripheral Target Tissue of Sensory Trigeminal Neurons," The Journal of Cell Biology. (March 1993) pp. 1471-1479. Volume 120. Number 6.	
		S. MITSUI, et al., "Genes for a Range of Growth Factors and Cyclin-Dependent Kinase Inhibitors are Expressed by Isolated Human Hair Follicles," British Journal of Dermatology (1997) pp. 693-98. Vol. 137.	
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		W.G. CREWETHER, et al., "Low-Sulfur Proteins from alpha -Keratins. Interrelationships between their Amino Acid Compositions, alpha-Helix Contents, and the Supercontraction of the Parent Keratin," BIOPOLYMERS (1966) pp. 905-916, Vol. 4.	
		G.M. BHATNAGAR, et al., "The Conformation of the High-Sulphur Proteins of Wool 1. The Preparation and Properties of a Water-Sulphur Metakeratin," Int. J. Protein Research I. (1969), pp. 199-212.	
		W.G. CREWETHER, et al., "The Preparation and Properties of a Helix-Rich Fraction Obtained by Partial Proteolysis of Low Sulphur S-Carboxymethylkeratine from Wool," (1967) The Journal of Biological Chemistry (Issue of October 10), pp. 4310-4319, Vol. 242, No 19.	
dw		D.A.D. PARRY, et al., "Structure of alpha -Keratin: Structural Implication of the Amino Acid Sequences of the Type I and II Chain Segments," J. Mol. Biol. (1977) pp. 449-454, Vol. 113.	

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WV		E. SUZUKI, et al., "X-Ray Diffraction and Infrared Studies of an alpha -Helical Fragment from alpha -Keratin," J. Moll. Biol. (1973) pp. 275-278, Vol. 73.	
		G.M. BHATNAGAR, et al., "The Conformation of the High-Sulphur Proteins of Wool: II. Difference Spectra of Keratine-B," Int. J. Research, (1969) pp. 213-219.	
		DEAN R. HEWISH, et al., "In Vitro Growth and Differentiation of Epithelial Cells Derived from Post-Embryonic Hair Follicles," Aust. J. Biol. Sci., (1982) pp. 103-109, Vol. 35.	
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		G.E. ROGERS, et al., "Some Observations on the Proteins of the Inner Root Sheath Cells of Hair Follicles," Biochimica et Biophysica Acta, (1958) pp. 33-43, Vol. 29.	
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		AKIRA TACHIBANA, et al., "Fabrication of Wool Keratins Sponge Scaffolds for Long-Term Cells Cultivation," Journal of Biotechnology, (2002) pp. 165-170, Vol. 93.	
		J.M. Gillispie, et al., "Periodicity in High-sulphur Proteins from Wool," Nature, (September 18, 1965) pp. 530-531, Vol. 246.	












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		KIYOSHI YAMAUCHI, "The Development of Keratin: Characteristics of Polymer Films," [Research Report]; pp. 1-12.	
		"Scattering to Structural Foams, Skin, Synthetic" Encyclopedia of Polymer and Science and Engineering, (1989) pp. 335-345, Vol. 15.	
		J.M GILLESPIE, et al., "Proteins Rich in Glycine and Tyrosine from Keratins," Comp. Biochem. Physiol., (1972) pp. 723-734, Vol. 41B.	
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		J.M. GILLESPIE, et al., "The Macroheterogeneity of Type I Tyrosine-rich Proteins of Merino Wool," Aust. J. Biol. Sci., (1974) pp. 617-27, Vol. 27.	
		E.G. BENDIT, et al., "The Probable Role and Location of High-Glycine-Tyrosine Proteins in the Structure of Keratins," BIOPOLYMERS, (1978) pp. 2743-2745, Vol. 17.	
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		ROBERT C. MARSHALL, et al. "Heterogeneity and Incomplete Disulfide Reduction in the High-Sulfur Proteins of Wool," Aust. J. Biol. Sci. (1978) pp. 219-229, Vol. 31.	

Examiner Signature 	Date Considered 2/18/05
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Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i> Sheet <u>8</u> of <u>9</u>		<b>Complete if Known</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>10/673,976</td> </tr> <tr> <td>Filing Date</td> <td>09/29/2003</td> </tr> <tr> <td>First Named Inventor</td> <td>MARK VAN DYKE</td> </tr> <tr> <td>Group Art Unit</td> <td>Not Yet Assigned</td> </tr> <tr> <td>Examiner Name</td> <td>Not Yet Assigned</td> </tr> <tr> <td>Attorney Docket Number</td> <td>SWRI-2921-04</td> </tr> </table>		Application Number	10/673,976	Filing Date	09/29/2003	First Named Inventor	MARK VAN DYKE	Group Art Unit	Not Yet Assigned	Examiner Name	Not Yet Assigned	Attorney Docket Number	SWRI-2921-04
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Filing Date	09/29/2003														
First Named Inventor	MARK VAN DYKE														
Group Art Unit	Not Yet Assigned														
Examiner Name	Not Yet Assigned														
Attorney Docket Number	SWRI-2921-04														

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
		H. LINDLEY, et al., "The Preparation and Properties of a Group of Proteins from the High- Sulphur Fraction of Wool," Biochem. J. (1972) pp. 859-867, Vol. 128.	
		J.M. GILLESPIE, et al., "Evidence of Homology in a High-Sulphur Protein Fraction (SCMK-B2) of Wool and Hair alpha -Keratins," Biochem. J. (1968) pp. 193-198, Vol. 110.	
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		DR. P. ALEXANDER, et al., "Structure of Wool Fibres," Nature, (September 2, 1950) pp. 396-398.	
		NODE, et al., "Hard Acid and Soft Nucleophile System. 2. Demethylation of Methyl Ethers of Alcohol and Phenol with an Aluminum Halide-Thiol System," J. Org. Chem (1980), pp. 4275-4277. Vol. 45.	
		ITO, et al., "Biocompatibility of Denatured Wool Keratin," Konbushi Ronbunshu [Collected Essays on Polymers], (April 1982) pp. 249-256, Vol. 39, No. 4.	
		TATSUYA and ISHII, "Keratin Protein High Pressure Molded Article,"; Japanese Patent Application, (Dec. 03, 1993), total of six pages, Public Patent Announcement 1993-320358.	
		SAEKI, YOKOGAWA, and UEHARA, "Production Method For Water-soluble Keratin Protein," Japanese Patent Application, (February 21, 1990), total of five pages, Public Patent Announcement 1990-51533.	
		MIYAMOTO and TSUSHIMA, "A Method for Preparing a Keratin Substance with a Low Molecular Weight," Japanese Patent Application, (July 8, 1982), total of five pages; Public Patent Disclosure Bulletin S57-109797.	

Examiner Signature 	Date Considered <u>7/18/05</u>
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Sheet 9 of 9

Sheet 9 of 9

Sheet 9 of 9

Sheet 9 of 9

Sheet 9 of 9

**Complete if Known**

Application Number	10/673,976
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Filing Date	09/29/2003
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First Named Inventor	MARK VAN DYKE
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Group Art Unit	Not Yet Assigned
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Examiner Name	Not Yet Assigned
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Attorney Docket Number | SWRI-2921-04

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*M*

R.D.B. FRASER, "The Chain Configuration of Wool Keratin," SHORT COMMUNICATIONS, PRELIMINARY NOTES, (1953) pp. 482-483, Vol. 12.



R.D.B. FRASER, et al., "Microscopic Observations of the Alkaline-Thioglycollate Extraction of Wool," SHORT COMMUNICATIONS, PRELIMINARY NOTES, (1953) pp. 484, Vol. 12.

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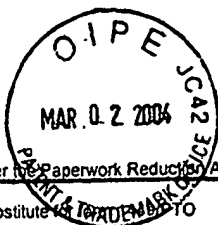
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Application Number	10/673,976
Filing Date	September 29, 2003
First Named Inventor	Van Dyke
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SwRI-2921-04

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
Mw		US- 5358935	10-25-1994	Lankford et al.	
		US- 5356433	10-18-1994	Rowland et al.	
		US- 3677693	07-18-1972	Fillingham	
		US- 6352699	03-05-2002	Mondet, et al.	
		US- 5300285	04-05-1994	Halloran, et al.	
		US- 5412076	05-02-1995	Gagnieu	
		US- 3250682	05-10-1966	Wilmsmann, et al	
		US- 5258501	11-02-1993	Barbaric, et al.	
		US- 4504644	03-12-1985	Lang, et al.	
		US- 2434688	01-20-1948	Evans	
Mw		US- 5276138	01-04-1994	Yamada, et al.	
		US- 5520925	05-28-1996	Maser	
		US- 5948432	09-07-1999	Smith, et al.	
		US- 6124265	09-26-2000	Smith, et al.	
		US- 6165496	12-26-2000	Smith, et al.	
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**FOREIGN PATENT DOCUMENTS**

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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
Mw		WO 03008006	01-30-2003	PHANEUF, M		
		EP 0540357	05-05-1993	Jones, et al.		
Mw		EP 0097907	01-11-1984	Haller		
		WO 9931167	06-24-1999	Vanderhoff, et al.		

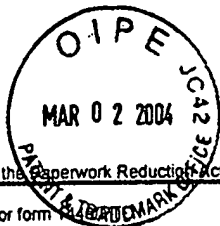
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Application Number	10/673,976
Filing Date	September 29, 2003
First Named Inventor	Van Dyke
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SwRI-2921-04

Sheet 2 of 2

**NON PATENT LITERATURE DOCUMENTS**

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MW		VAN DYKE MARK ET AL., Development of keratin coatings for osteoinduction on titanium, Abstracts of Papers American Chemical Society, vol. 224, no. 1-2, 2002, August 18-22, 2002.	
I		TANAKA, YOSHIO ET AL., Reaction of Wool Keratin with Epoxides, Proceedings International Wolltextil-Forschungskonf, Vol. 3, 1976, pp. 192-201	
MW		FRAENKEL-CONRAT, H., The Action of 1, 2-Epoxides on Proteins, Journal of Biological Chemistry, vol. 154, no. 1, June 1, 1944	

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			Application Number	10/673,976	
			Filing Date	09/29/2003	
			First Named Inventor	VAN DYKE	
			Group Art Unit	1646	
			Examiner Name	Not Yet Assigned	
			Attorney Docket Number	SwRI-2921-04	
Sheet	1	of	1		

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